

tables. A comparative CE model, incorporating fondaparinux, was developed. Incremental cost-effectiveness ratios (ICERs) were calculated. Since no fondaparinux was used, we applied rates from published trials, and adjusted for the mean proportional increase in rates between 49 days (trial follow-up) and one year in Veterans. For fondaparinux, costs were estimated from mean costs of complications among the other TSs, with an adjustment for increased medication cost. One-way sensitivity analyses (SA) were performed by incorporating the mean probabilities of DVT among each other TSs into the least-costly TS or decreasing the costs of complication arms by one standard deviation. **RESULTS:** There were 3037 patients, 131 VTEs, and 53 deaths. Dalteparin was dominant; the least-costly per patient with fewest VTEs (\$16,310, 1.0%) compared to warfarin (\$17,803, 3.5%), enoxaparin (\$19,253, 2.4%), enoxaparin/warfarin (\$23,641, 22.7%), and fondaparinux (\$19,577, 1.6%). Thus, ICERS indicated more costs and more events with other TSs. Deaths occurred in 2% of dalteparin patients, thus ICERS for LYG (deaths) were warfarin \$27,004 (1.7%), enoxaparin \$33,232 (1.5%), enoxaparin/warfarin \$40,479 (1.1%), and fondaparinux \$20,355 (estimated 1.2%). Each SA showed dalteparin remained the least-costly TS per VTE avoided. **CONCLUSION:** Dalteparin was the least-costly TS and had the fewest VTEs.

PHC6

COST-EFFECTIVENESS COMPARISON OF TENSION-FREE MESH REPAIR VS. TENSION SUTURE REPAIR METHODS OF INGUINAL HERNIA IN HUNGARY

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OBJECTIVE: The objective of this study was to compare the cost-effectiveness of tension-free mesh and tension suture methods of inguinal hernia repair in Hungary, from hospital and payer perspectives. **METHODS:** Cost effectiveness of open mesh vs. open non mesh was modeled with a Cohort Markov model. Model simulation runs in yearly cycles up to 15 years. Transition probabilities were derived from systematic review and other published sources. Costs were collected from two hospitals and from the payer in Hungary. Utility values were extracted from the published sources. Both costs and outcomes were discounted annually at 5%. In probabilistic sensitive analysis simulations were repeated 10,000 times. CEAC curves were generated as a result of simulation for all scenarios. **RESULTS:** Over a 5 and 15 year period open mesh provides greater benefits in terms of more QALYs and fewer recurrences at a cumulatively higher cost than open non mesh procedures. Cost per one additional QALY is €13,221 in a 5 years time horizon and €2819 in a 15 years time horizon from a payer perspective. Cost per one recurrence avoided is €885 in a 5 years time horizon and €173 in a 15 years time horizon from payer perspective. When the costs from a hospital perspective are used the open mesh option is the dominant technology over the open non mesh option. Results in the probability sensitivity analysis are very similar to deterministic analysis. In the five year perspective open mesh is the more cost effective option in comparison to open non mesh option when the value for society's willingness to pay for a QALY exceeds €6000 (€700 in the 15 years perspective). **CONCLUSION:** Findings suggest open mesh hernia repair method as a very cost effective therapy from both hospitals and payer perspectives for the inguinal hernia treatment in Hungary.

PHC7

COST-EFFECTIVENESS COMPARISON OF TENSION-FREE MESH REPAIR VS. TENSION SUTURE REPAIR METHODS OF INGUINAL HERNIA IN POLAND

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OBJECTIVE: To compare the cost-effectiveness of tension-free mesh and tension suture methods of inguinal hernia repair in Poland, from hospital and payer perspectives. **METHODS:** Cost effectiveness of open mesh vs open non mesh was modeled with a Cohort Markov model. Model simulation runs in yearly cycles up to 15 years. Transition probabilities were derived from systematic review and other published sources. Costs were collected from four hospitals and from the payer in Poland. Utility values were extracted from the published sources. Both costs and outcomes were discounted annually at 5%. In probabilistic sensitive analysis simulations were repeated 10,000 times. CEAC curves were generated as a result of simulation for all scenarios. **RESULTS:** Over a 5 and 15 year period open mesh provides greater benefits in terms of more QALYs and fewer recurrences at a cumulatively higher cost than open non mesh. The cost per one additional QALY is €16,730 in a 5 years time horizon and €3236 in a 15 years time horizon from a payer perspective (€16,485 and €3061 respectively from a hospital perspective). Cost per one recurrence avoided is €1096 in a 5 years time horizon and €199 in a fifteen years time horizon from a payer perspective (€1103 and €188 respectively from hospital perspective). Results from the probability sensitivity analysis are very similar to deterministic analyses. In the five year perspective open mesh is more cost effective in comparison to the open non mesh option when the value for society's willingness to pay for a QALY exceeds €10,000 (€500 in the 15 years perspective). **CONCLUSION:** Findings suggest open mesh hernia repair method as a very cost effective therapy from both hospitals and payer perspectives for the inguinal hernia treatment in Poland.

PHC8

COST-EFFECTIVENESS COMPARISON OF TENSION-FREE MESH REPAIR VS. TENSION SUTURE REPAIR METHODS OF INGUINAL HERNIA IN SLOVAKIA

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OBJECTIVE: The objective of this study was to compare the cost-effectiveness of tension-free mesh and tension suture methods of inguinal hernia repair in Slovakia, from hospital and the payer perspective. **METHODS:** Cost effectiveness of open mesh vs open non mesh was modeled with a Cohort Markov model. Model simulation runs in yearly cycles up to 15 years. Transition probabilities were derived from systematic review and other published sources. Costs were collected from two hospitals and from the payer in Slovakia. Utility values were extracted from the published sources. Both costs and outcomes were discounted annually at 5%. In probabilistic sensitive analysis simulations were repeated 10,000 times. CEAC curves were generated as a result of simulation for all scenarios. **RESULTS:** Over a 5 and 15 year period open mesh provides greater benefits in terms of more QALYs and fewer recurrences than open non-mesh. When the costs from a payer's perspective are used the open mesh option is the dominant technology over open non mesh option (equal payment for open mesh and open non mesh options). The cost per one additional QALY is €1230 in a 5 years time horizon and the open mesh is the cost effective option in a 15 years time horizon from a hospital perspective. Cost per one

recurrence avoided is €82 in the 5 years time horizon and the open mesh is the dominant option in the 15 years time horizon from a hospital perspective. Results in the probability sensitivity analysis are very similar to deterministic analysis. **CONCLUSION:** Findings suggest open mesh hernia repair method as a very cost effective therapy from both hospitals and payers perspectives for the inguinal hernia treatment in Slovakia.

PHC9

THE POTENTIAL SAVINGS IN OPERATING ROOM TIME ASSOCIATED WITH THE USE OF SUGAMMADEX TO REVERSE SELECTED NEUROMUSCULAR BLOCKING AGENTS: FINDINGS FROM A HOSPITAL EFFICIENCY MODEL

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OBJECTIVE: Operating rooms (OR) are an expensive hospital resource. As a new selective reversal binding agent, sugammadex has been shown in clinical trials to reduce reversal time (time from reversal agent administration to full recovery) among patients receiving selected steroidal neuromuscular-blocking agents (NMBAs). Our goal was to develop a hospital efficiency model to assess the potential impact of sugammadex adoption on OR time. **METHODS:** A deterministic model was developed to estimate potential time savings associated with sugammadex adoption for the U.S. setting. Model inputs included surgical caseloads, utilization rates of NMBAs and reversal strategies, OR time components, and OR labor costs. The effects of reversal strategies on reversal time were evaluated using clinical trial data. Other model inputs were estimated using published literature and analyses of secondary hospital databases. OR time saved was defined as the difference in minutes required for all procedures performed per day in one OR before and after the introduction of sugammadex. Estimates of savings in OR staff costs (including OR nurse, OR technician, and certified registered nurse anesthetist) were generated under alternative assumptions about the likelihood that overtime is paid. Sensitivity analyses were performed on key model assumptions. **RESULTS:** In the base-case scenario, OR time saved by sugammadex was estimated to be 25 minutes per OR day or 612 hours annually in a typical US hospital with 6 ORs. Associated annual cost savings were estimated to range from \$32,035 (25% of days involve overtime) to \$96,105 (75% of days involve overtime). Findings also varied with the assumed adoption rate of sugammadex and hourly OR staff salaries. **CONCLUSION:** Sugammadex may save OR time and associated costs for U.S. hospitals, primarily by reducing overtime pay. The net financial benefit of sugammadex will depend on its cost and its adoption rate in clinical practice.

PHC10

AN ASSESSMENT OF HOSPITAL COSTS AND REIMBURSEMENT AMONG TOTAL HIP OR KNEE ARTHROPLASTY PATIENTS IN THE UNITED STATES THAT EXPERIENCE VENOUS THROMBOEMBOLISM

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OBJECTIVE: Deep vein thrombosis (DVT) and pulmonary embolism (PE), collectively known as venous thromboembolism (VTE), are well-known complications of total knee or hip

arthroplasty (TKA and THA). This study examined the economic burden of VTE in arthroplasty surgeries from a US hospital perspective. **METHODS:** Patients at least 18 years old undergoing TKA and THA from January 1, 2002 to December 30, 2006 were extracted from a large, nationwide inpatient database. Rates of events, length of hospital stay, inpatient costs and reimbursed amounts (available for a small subset that could be linked to managed care data) were evaluated. Multivariate analyses were conducted on hospital costs to adjust for differences in demographic and clinical characteristics. **RESULTS:** Out of 259,524 hip and knee surgeries (mean age of 67 years), 1.0% of patients diagnosed with VTE during hospitalization (0.6% DVT only and 0.4% PE [with or without DVT]). Compared to patients without VTE, mean length of stay (LOS) for those with VTE was twice as long (8 vs. 4, $p < 0.0001$) and hospital costs were 48.0% higher (\$20,850 vs. \$14,092, $p < 0.0001$). Within the limited subset that had linked managed care claims data ($n = 5002$), mean cost of patients with VTE was 23.5% higher (\$16,877 vs. \$13,662, $p < 0.0023$); however, the amount reimbursed was on average 6.4% higher (\$14,121 vs. \$13,272, $p = 0.77$). After multivariate adjustment, DVT increased costs by \$1421 following TKA and \$3950 following THA; PE increased costs by \$2862 following TKA and \$4355 following THA ($p < 0.0001$ for all). **CONCLUSION:** Experiencing VTE complications substantially adds to the costs of TKA or THA. The increased hospital costs of patients with VTE did not appear to be adequately reimbursed. The overall economic impact of implementing prophylaxis to prevent VTE events can be projected.

**HEALTH CARE INTERVENTIONS—
Patient-Reported Outcomes**

PHC11

A SYSTEMATIC REVIEW OF STUDIES ON QUALITY OF LIFE IN ANIMALS

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OBJECTIVE: The objective of this project was to review published studies on quality of life (QoL) in animals. **METHODS:** An electronic search in EMBASE including MEDLINE using the key words “quality of life” and “animals” resulted in 1588 articles. Inclusion criteria for review was study on QoL, exclusion criteria were case studies with $n < 3$, and studies in laboratory animals as proxy for humans. **RESULTS:** A total of 48 studies were included for review, of which 40 were performed in dogs. The aim of nine studies was the development and validation of a questionnaire, three studies provided a checklist or background information on QoL in animals. In the remaining 36 studies QoL was assessed as outcome measure in specific diseases or treatments; however 30 of these studies were uncontrolled. Previously developed, used or validated questionnaires were included in only 3 studies. In 23 studies assessment of QoL was limited to one single question, addressed to the owners. In 30 of the 36 studies the evaluation of QoL was performed only at one time point after the start of an intervention, of which 3 studies retrospectively evaluated a baseline value. In 19 studies, all or part of the animals were already dead at the time of assessment. In 19 of the 30 uncontrolled studies QoL was rated as good to excellent (or equivalent in scores) in $>50\%$ of the animals, even in studies on severe conditions such as cancer or chemotherapy. **CONCLUSION:** Most of the studies assessing QoL as outcome used unvalidated questionnaires and included only one single question addressed to the owners. It is questionable whether the